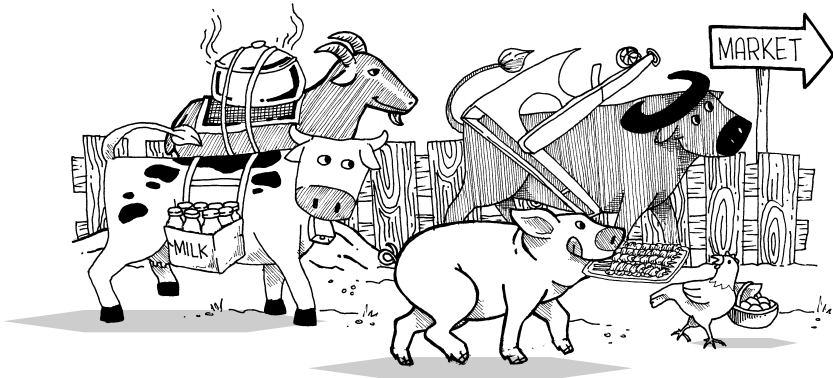


# Managing Animal Genetic Resources at the Community Level



**A**nimal genetic resources are defined as “all animal species, breeds/strains and populations used for food and agricultural production and their wild or semi-domesticated relatives”. Worldwide, only 14 out of about 40 domesticated species contribute 90% of all animal products and services. They were diversified into about 6,400 breeds. While animal genetic diversity is not threatened at the species level, about one third of the breeds are classified as endangered. During the last 100 years, about 1,000 breeds have disappeared, 300 of these during the last 15 years.

## Why Do Breeds Become Extinct?

Besides replacement by exotic breeds, reasons for breeds extinction include the following:

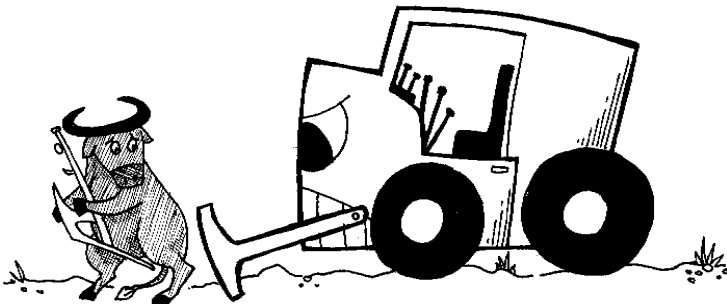
## Loss of Grazing Opportunities

One of the main reasons leading to the extinction of breeds is the expansion of crop cultivation and irrigation into marginal zones and conversion of former pastures into protected areas. In the context of nature or wildlife conservation, livestock keepers are often evicted from their traditional pastures. This practice continues, although wildlife and livestock often symbiotically co-exist and plant biodiversity may decrease with the absence of grazing livestock.



## Absence of Market Demand and Lack of Competitiveness with Improved Breeds

The change in market demand and the loss of interest in some of the by-products of local breeds are some of the contributory factors. When communities become integrated into the market economy, animal keepers switch to breeds with higher outputs of milk, meat or eggs. In India, a decrease in the demand of the draught cattle breeds, which have been superseded by tractors, is a great concern.

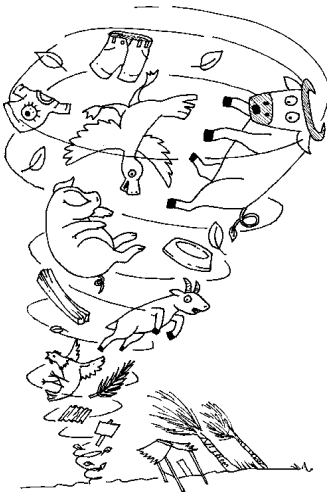
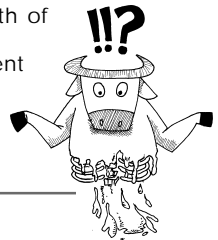


## Disappearance of Indigenous Knowledge and Institutions

If there is no more demand for the breed, related knowledge can vanish quickly within a generation. Similarly, indigenous breeding institutions disintegrate rapidly. For example, the practice of keeping a community bull has disappeared in many parts of Rajasthan where cattle breeding is no longer profitable. When the knowledge and these institutions have disappeared, it is very difficult to revive the breed and the information that goes with it.

In the Bharatpur bird sanctuary in northern India, buffaloes were evicted. This resulted in the growth of tall grass and the disappearance of nesting habitats for some of the migratory birds for which the sanctuary was famous for. As a result, buffaloes were re-admitted to the sanctuary.

In Germany, ever since stall feeding has taken over, the absence of grazing livestock has caused dense growth of undershrubs in the forest, hence, preventing the regrowth of large trees. Presently, there is a government supported program for maintaining the original forest landscape with the help of goats. Goat keepers are paid, per day and per head, for grazing their goats in the forest.



## Conflicts and Catastrophes

Wars and natural disasters can cause massive loss of livestock. Aid agencies often try to help by restocking and importing animals from developed countries. In Bosnia, this has contributed to the extinction of several indigenous breeds.

Some local livestock may produce less milk or meat, but this inadequacy in one aspect may very well be compensated, as these breeds may require less input in terms of feeding, veterinary care and housing. In remote and marginal regions, local livestock may be the only breed that is able to survive. Moreover, women - who usually are in charge of taking care of the animals - often prefer the local breeds because they require less labor and have higher resistance against diseases.



## Evaluating The Existing Local Livestock Breeds

Upgrading the productivity of local livestock breeds by cross breeding with exotic breeds is a widely used strategy in rural development. But this often leads to the extinction of local breeds which are actually more adapted to the ecosystem and fulfill a wider range of people's needs. Evaluation of local livestock, must therefore be done, before a cross breeding project be undertaken.

## Recognizing "New" or Unreported Breeds

By conducting a breed survey, the animal populations that represent distinct breeds will be covered. The question is, how does one know if the animals in an area belong to a distinct breed?

As a guide, the following questions may be asked.

- Do people have a particular term to refer to the type of animals they keep? Often, people have a local name for their breed (sometimes they may just refer to it as "local" to distinguish it from exotic breeds). Locally used terms may be different from the ones used by scientists.

- Are the people breeding their own animals, or do they buy them from outside? If the latter is the case, there is less likelihood that there is a well-defined breed in the area.
- Are there traditional breeding institutions, such as a communal system for keeping a male breeding animal? If yes, it means that people are aware of the importance of breeding, and it is therefore more likely that a specific breed exists.
- Do people have a particular concept of what a good animal should be like and do they select breeding animals accordingly?
- Do animals have a social function? For instance, are they given as dowry or bridewealth, or as short-term or long-term loans?

When Lokhit Pashu Palak Sansthan, an Indian NGO working with livestock keepers, conducted a survey of village breeding institutions and asked about the types of breeds kept, local people referred to them as either “Nari” or “Modi”. Neither term is recorded among scientific breed classifications. As they probed deeper, they found out and were able to confirm that the Nari bulls were all purchased from an adjoining district, and the Nari cattle very much represent a distinct breed.



If the answers to these questions are yes, then there is a great likelihood that a well-defined breed exists in the area.

## Documentation of “New” Breeds

Proper documentation of new breeds is important if a distinct breed exists in an area. Scientific methods for documenting breeds focus on external characteristics and production. These methods often do not capture the full significance of the animals for rural livelihoods, especially their social and cultural value.

Characterization of new undocumented breeds is best done with participatory methods through informal interviews, talks with local experts and group discussions. It is important to record the local terminology used to describe the breeds and to understand local breeding goals.



## Conservation

The best way of conserving local breeds is by creating an enabling environment for the breeding communities. Some strategies are as follows:

### Increasing Community Awareness

The first step is to raise the awareness of the community about the on-going process and to identify breeders and young people who are interested in livestock keeping and the particular breed.



### Examples of traditional breeding institutions

In Rajasthan, West India, every village has a communally owned and managed breeding bull, often also a buffalo bull. These bulls are purchased jointly, with every village household making a contribution. A village bull keeper is hired. The villagers agree on how much feed each family has to contribute to the upkeep and how much grain or money to compensate the bull keeper.

In Somalia, camel breeding families that do not have a breeding male of their own, borrow one from their relatives, hire one from others, or drive their female camels as far as 200-500 km to have them served by a prominent sire. This arrangement does not yield any financial gain to the owner of the male, but brings prestige and helps build alliances.

Among the Raika of Rajasthan too, there is an obligation of sharing a good quality male camel with anybody who asks for its breeding services.



## Creating the Right Policy Framework

As lack of access to grazing areas prevents people from keeping traditional breeds, restoration of grazing rights or opportunities is absolutely essential.

## Organization and Capacity-building for Breeders

Organizing herders and breeders into cooperatives, associations or societies is a promising tool for conservation. In Brazil, support for breeder associations proved to be one of the best ways in increasing interest in local breeds. Breeding societies can fulfill important functions specially in reviving and supporting traditional institutions.

## Creating a Market and Marketing Facilities for Products of the Breed

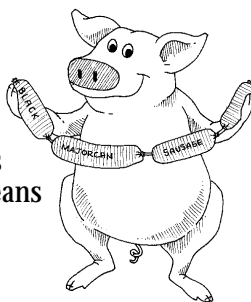
In Europe, several breeds have been revived because a specialty market for regionally typical food was developed. An example is that of the Black Majorcan pig which was threatened after the introduction of intensive production systems and foreign breeds. Then in the 1980s, 89 farmers formed a breeding association and pushed for a special label for local sausage made exclusively from the meat of this breed. By now the Spanish government has conferred a registered trademark for this product. In Italy, the famous Parmesan cheese can only be made from the milk of one particular cattle breed.

## Breed Improvement through Selection

The performance of local breeds can be improved by stronger selection for or against certain traits. Alpaca breeders in Latin America were successful in eliminating colored animals for whose fibre there was no demand. There is evidence that improvement of breeds by selection is more beneficial to farmers than by means of cross-breeding.

The LIFE (Local Livestock For Empowerment of Rural People) Network of NGOs is currently developing a method of breed characterization. This method is still being tested, but it integrates the following principles:

- Documentation of animal breeding related indigenous knowledge to put on record the intellectual contribution of the farming and pastoral communities that created the breeds.
- Use of participatory appraisal methods (rather than formal questionnaires) that contribute to raising the awareness of local communities about the genetic treasures used for husbandry.





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